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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,406	10/07/2003	Kiyoshige Muraoka	1403-0256P	5490

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
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1733

NOTIFICATION DATE	DELIVERY MODE
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05/10/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

## Office Action Summary

Application No.

10/679,406

Applicant(s)

MURAOKA ET AL.

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006 and 29 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6,9-11,13,14 and 19-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,9-11,13,14 and 19-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 9/29/2006 and 12/29/2006 have been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 6, 9-11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaido et al. (US 6,136,123) taken in view of at least one of [Kotani et al. (US 5,700,560) or Kotani et al. (US 6,316,093)] and further in view of WO 98/56598 to Feeney et al.

These references are applied for the same reasons as set forth in the last office action, it being noted that claim 1 as amended substantially corresponds to previous claim 5.

4. Claims 13, 14 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaido et al. (US 6,136,123) taken in view of at least one of [Kotani et al. (US 5,700,560) or Kotani et al. (US 6,316,093)] and WO 98/56598 to Feeney et al. as applied above, and further in view of Kresge et al. (US 5,576,372) and Hopkins et al. (US 2001/0009948).

These references are applied for the substantively the same reasons as set forth in the last office action against corresponding claims, it being noted that new claim 24

substantially corresponds to prior claim 8 while claims 13, 14 and 20-23 correspond to prior claims 7 and 12-14.

5. Applicant's arguments filed 9-29-2006 and 12-29-2006 have been fully considered but they are not persuasive.

With respect to the 9-29-2006 arguments, as to Kaido et al., it is pointed out by applicant that this reference does not disclose or suggest use of a layered compound as claimed. While it is not disputed that Kaido et al. does not suggest a layered filler in the resin film, such was considered to have been obvious to the ordinary artisan in view of the secondary references to Kotani et al. With respect to the Kotani et al. references, it is argued that they relate to gas barrier resin compositions used for the preservation of foods and that the applications mentioned are far removed from tires and therefore cannot be combined with the tire references. These arguments have been considered but are unpersuasive for the reasons noted in the prior office action. In particular, the Kotani et al. patents are fundamentally directed to improving the gas barrier properties in gas barrier resin compositions (and in fact these patents are also not limited to food applications). As such, it is submitted that the ordinary artisan, following the teachings of Kaido et al. to provide a barrier resin film layer in a tire so as to provide gas barrier properties to the tire, would have been strongly motivated to apply teachings with respect to known ways to enhance the gas barrier properties in films made of the same resin composition. Thus, again, given that Kaido et al. desires a resin that provides high gas barrier properties, it would have been obvious to adopt a resin that includes the layered filler as claimed for the Kaido et al. tire in light of the teachings of the Kotani et

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al. patents that such provides an improvement in gas barrier properties, which properties are clearly desired in Kaido et al. Only the expected results would therefore be achieved.

With respect to the 12-29-2006 arguments, it is further stressed that the Kotani references do not suggest a gas barrier layer on an inner face of an inner liner layer. This is not disputed but the inventive combination was considered obvious for reasons of record. It is also stressed that there would be no motivation for the artisan to look to the Kotani references as these are directed to food packaging rather than tires. This argument has been carefully considered but is unpersuasive. Again, these references are more fundamentally directed to resin compositions/films that have good gas barrier properties. Therefore, given that Kaido et al. desires a resin that provides high gas barrier properties, it would have been obvious to adopt a resin that includes the layered filler as claimed for the Kaido et al. tire in light of the teachings of the Kotani et al. patents that the inclusion of the layered filler in many of the same resin materials used by Kaido et al. provides an improvement in gas barrier properties, which properties are clearly desired in Kaido et al. Note also for example cols. 19-20 of Kotani et al. '093 which clearly indicate that the main inventive feature is the composition/film itself and its desirable properties, col. 20, lines 12+ further clearly suggesting to the artisan broad applicability beyond simply food packaging. Given these specific teachings of very desirable gas barrier properties while retaining e.g. film strength (e.g. abstract of Kotani et al. '093), it is not unreasonable to expect the ordinary artisan to understand and expect such teachings to have application to known resin based tire liner layers formed

from the same types of films with an expectation of further enhancing the gas barrier properties. In other words, given that a main reason to use the resin film layer in the tire is for its higher gas barrier properties, it is not seen why the artisan would ignore teachings suggesting how to further enhance the gas barrier properties of the same resin materials (e.g. polyvinyl alcohol, EVOH).

As to Kaido, it is argued that it fails to disclose combining a gas barrier layer and an innerliner layer and that it requires the presence of a takifier-adhesive, which adhesive layer "is not required by the present invention." First, as to the takifier adhesive, claim 1 does not define over using an adhesive layer and in fact claim 6 explicitly requires it. Further, in any event (and for new claim 19), note that Kaido also indicates that the adhesive can be provided only at the splice portion (e.g. col. 2, lines 13-15; example 13), direct bonding of the rest of the layer therefore being contemplated. As to the presence of an inner liner layer in combination with the film, it is not clear that Kaido et al. fails to suggest this, note being taken of the reference to the rubber inner surface suitably being formed from halogenated butyl rubber (col. 4, lines 44-50, such being the typical compound used in typical tire inner liners) as well the reference to an inner liner layer at col. 8, lines 61+. Further, in any event, WO '598 to Feeney is directed to a similar tire that includes a coated gas barrier film on the inner surface and in particular suggests an understanding in this art of the suitability of both application to a butyl innerliner as well as coating of the carcass rubber directly without an innerliner (esp. pages 22-24), this being considered to render it obvious to provide the Kaido et al. film in place of or in addition to the butyl innerliner and thus application to a typical butyl

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liner that contains predominantly butyl rubber, as is well known in this art, would have been obvious (if not deemed to be suggested by Kaido).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Geoffrey L. Knable  
Primary Examiner  
Art Unit 1733

G. Knable  
May 4, 2007